WHAT IS CLAIMED IS:

1. Method for detection of data of uneven surfaces, in particular for acquisition of biometric data at faces and fingers, using a light source for the illumination of the uneven surface, an imaging optical system and an analyzing facility for electronic image processing, characterized in that the surface is scanned without a touching contact to optically effective surfaces by illuminating them in a strip-shaped manner and, by using light reflected at discrete locations, creating partial images of the object, which are selectively analyzed and composed to an overall image.

2. Method according to claim 1, characterized in that the light source is moved on a path around the object and that for discrete locations a separate image is taken respectively which is composed and analyzed afterwards.

3. Method according to claim 1, characterized in that several light sources are arranged around the object in an arc-shaped manner, which are switched on one after the other and for each situation a separate image is taken, which is composed and analyzed afterwards.

4. Method according to one of the preceding claims, characterized in that the object is imaged by several cameras (2) and an overall image is composed of the single images, wherein only selected illuminated areas of the single images are used for the overall image.

5. Method according to claim 3, characterized in that, using only one camera (2) for each light source, a separate image is created and respective selected areas of the single images are joined together to an overall image.

6. Method according to one of the preceding claims, characterized in that the light reflected by the areas illuminated in a strip-shaped manner is analyzed using different wavelengths and is composed to an overall statement.

7. Method according to claim 6, characterized in that the surface is directionally illuminated with white light and an image of the surface is acquired by a camera (2), wherein an image series

of images of different wavelengths is created by color filtering single areas during the taking, wherein, after taking an image, from each color excerpt the area is selected to which a desired location on the object is assigned and an overall image is created in a frame buffer as a black and white image from the single color excerpts.

8. Method according to claim 6, characterized in that the areas illuminated in a strip-shaped manner are illuminated using light of different wavelengths and that the single images of the areas are joined together to an overall image.

9. Method according to one of the claims 6 to 8, characterized in that only one camera (2) is used which creates a separate image for each light source, wherein the illumination are switched through synchronously while taking the images so that only selected areas are processed further and that, by means of an electronic control unit, a selected area of the matrix is read out for each lighting situation.

10. Method according to one of the preceding claims, characterized in that, for detection of a finger (1), the finger is scanned line by line selectively, wherein the lines are aligned parallelly to the finger's axis.

11. Arrangement for touchless detection of data of uneven surfaces, in particular for biometric finger checking, comprising a light source for illuminating the uneven surface, an imaging optical system and an analyzing facility for electronic image processing, characterized in that, perpendicularly to the surface to be detected, an electronic camera (2) is arranged and that, bilaterally beneath it, line-shaped light sources are arranged in a row and that the electronic camera (2) is coupled to an electronic control unit which assigns partial images of the single light sources to desired locations on the object and processes the partial images to an overall image.

12. Arrangement according to claim 11, characterized in that light emitting diodes (3) are used as light sources.

13. Arrangement according to claim 11 or 12, characterized in that a camera (2) is used which creates a separate image for each light source, wherein the light sources are switched on

one after the other and only selected areas of the image are processed further and, by means of an electronic control unit, for each lighting situation an area of the matrix is read out successively which is assigned to the desired location on the object .

14. Arrangement according to claim 13, characterized in that a CMOS camera is used as a camera (2).

15. Arrangement according to claim 11 or 12, characterized in that several cameras (2) are arranged side by side in a row.

16. Arrangement according to one of the claims 11 to 15, characterized in that a white light source is arranged perpendicularly to the center of the surface to be detected and, alongside, several cameras (2) are arranged in a row, which take spectrally filtered images.

17. Arrangement according to one of the claims 11 to 16, characterized in that the light sources radiate at different wavelengths, wherein between light sources emitting the same wavelength at least one light source is arranged which radiates at a different wavelength.

18. Arrangement according to one of the claims 11 to 17, characterized in that the light emitting diodes (3) radiate at wavelengths in a range of about 400 nm to about 3 μm.

19. Arrangement according to one of the claims 11 to 18, characterized in that an additional light source (3.R) radiating red is arranged in the row of light sources as an illumination of reference.

20. Arrangement according to claim 19, characterized in that the additional light source (3.R) emits light of the wavelength 660 and/or 800 nm.